IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

HEADWATER RESEARCH LLC, *Plaintiff,* v. CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS AND VERIZON CORPORATE SERVICES GROUP INC., *Defendants.*	Case No. 2:23-cv-00352-JRG-RSP JURY TRIAL DEMANDED
HEADWATER RESEARCH LLC, Plaintiff, v. T-MOBILE USA, INC. AND SPRINT CORP., *Defendants.*	Case No. 2:23-cv-00377-JRG-RSP (Member Case Under -379 Action) JURY TRIAL DEMANDED
HEADWATER RESEARCH LLC, *Plaintiff,* v. T-MOBILE USA, INC. AND SPRINT CORP., *Defendants.*	Case No. 2:23-cv-00379-JRG-RSP JURY TRIAL DEMANDED

PLAINTIFF HEADWATER RESEARCH LLC'S
REPLY CLAIM CONSTRUCTION BRIEF

*   The parties agreed to consolidate claim construction proceedings (briefing and hearing) in the above-captioned cases. Thus, Headwater is filing this brief and supporting materials in the T-Mobile -379 case and will file this brief only in the Verizon -352 case.

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Ex.*	Description	Abbreviation
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3	U.S. Patent No. 9,215,613	'613 patent
4	T-Mobile's Patent Rule 4-2 Identification of Claim Constructions and Extrinsic Evidence, Ex. A (July 19, 2024)	T-Mobile CC Disclosure
5	Verizon's Patent Rule 4-2 Identification of Claim Constructions and Extrinsic Evidence, Ex. A (Aug. 6, 2024)	Verizon CC Disclosure
6	Declaration of Dr. Donald Turnbull for T-Mobile (Aug. 9, 2024)	Turnbull Decl.**
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10	Defendants' Petition for *Inter Partes* Review of U.S. Patent No. 8,589,541, Paper 1, IPR2024-00942 (June 7, 2024)	'541 IPR Pet.
11	Defendants' Petition for *Inter Partes* Review of U.S. Patent No. 9,198,042, Paper 4, IPR2024-00809 (Apr. 19, 2024)	'042 IPR Pet.
12	Defendants' Petition for *Inter Partes* Review of U.S. Patent No. 9,215,613, Paper 1, IPR2024-00945 (June 7, 2024)	'613 IPR Pet.
13	Claim Construction Order, Dkt. 107, Case 2:22-cv-00422-JRG-RPS (E.D. Tex. Feb. 20, 2024)	-422 CC Order
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 * All exhibits attached to the previously filed declaration of James S. Tsuei, submitted with Headwater's Opening Brief.

 ** Dr. Turnbull submitted substantively identical declarations (Exs. 6–8) in the T-Mobile -377 and -379 cases, the Verizon -352 case, and the AT&T -397 and -398 cases. The parties have agreed that Dr. Turnbull's Aug. 30, 2024 deposition applies to all declarations and cases.

A.   **"prospective . . . communications" ('541 patent, claim 1 and dependents)**

Consistent with dictionary definitions, Defendants' expert Dr. Turnbull agreed that "prospective" means *potential* or *eligible*. Op. Br. at 8. Thus, "prospective or successful communications over a wireless network" includes communications that *potentially* travel over a wireless network (not only communications that successfully travel). This makes perfect sense in the context of the '541 patent. The patent is all about applying control policies to selectively restrict communications. Thus, the claimed "service usage activity" encompasses both "prospective" communications and "successful" communications. The overall claim phrase is not indefinite, and Defendants' isolated attacks and incomplete hypotheticals lack merit.

First, Defendants argue that the '541 patent specification doesn't use the terms "prospective" or "successful" outside the claims. Resp. Br. at 4. But as this Court held in rejecting indefiniteness of another Headwater patent, "that the term is not in the specification does not make it indefinite, or even 'especially suspect.'" -103 CC Order at 15. Here, Dr. Turnbull agrees that "successful communications" is definite. For the same reasons—including based on the plain meaning of the term and the context of the claim—"prospective communications" is likewise definite. The specification contains extensive discussion of applying differential policy controls to communications, all of which the meaning of "prospective communications."

Second, Defendants assert that (a) it is unclear whether "prospective" and "successful" communications are mutually exclusive and (b) the inclusion of successful is confusing. Resp. Br. at 4. But Defendants already agreed that "successful" is definite. And the claim recites a "service usage activity comprising prospective *or* successful communications." A POSITA need not define the contours of individual words to understand the overall claim phrase with reasonable certainty. This is especially so here because the disputed language describes a "service usage policy." And there is no evidence that a POSITA would not understand what a service usage policy is.

Defendants imply that the inclusion of "successful" communication is redundant. But the

question is not whether the patentee could have drafted the claim in a different way that might have same scope. Rather, the question is whether the claim *as written* is indefinite. Here, it is not.

Third, Defendants consider the word "prospective" in isolation and present five hypotheticals of what could be considered a prospective communication. Resp. Br. at 4–5. This fails for multiple reasons. It does not and cannot show that the overall claim phrase beginning with "the service usage activity comprising" is indefinite. Further, Defendants' hypotheticals are not "contradictory"; nor do they illustrate any clear ambiguity in claim scope. *Id.* For example, a "prospective communication" broadly includes any communication that potentially travels over the wireless network. To the extent understandable, Defendants' first hypothetical is not a "communication" (because it does not yet exist) and the last hypothetical is not a "prospective" communication (because it has already traveled across the wireless network).

Indeed, to the extent Defendants' hypotheticals show anything, it is that infringement is a factual issue. The hypotheticals are incomplete and disembodied from any actual system. But when looking at a system as implemented (or even the prior art, as evidenced by Defendants' positions in IPRs), there is no evidence that a POSITA would be unable to understand and apply the claim with reasonable certainty. Specifically, there is no evidence that a POSITA would be unable to understand whether the system includes a "service usage activity."

B.   "service usage activity" ('541 patent, claim 1 and dependents)

Defendants argue that applying the "plain and ordinary meaning" of "service usage activity" here is inappropriate because it allegedly "allow[s] Headwater to argue that, e.g., the application itself is the service usage activity" and that the "service usage activity" does not "require a wireless network connection." Resp. Br. at 7. Both arguments lack merit.

As to Defendants' first argument, Headwater never agued that "service usage activity" can be "an application itself" or the "software component" of the claims. As Headwater explained, the

claims require "service usage activity" to be "associated with a first software component of a plurality of software components." Thus, a "service usage activity" cannot also be the "first software component," because the former must be "associated" with the latter to satisfy the claims. To the extent Defendants are concerned that the plain meaning of "first usage activity" might also encompass the "first software component," that concern is already addressed through the requirements of the claims. Indeed, Defendants' suggestion that "service usage activity" should be something which is "*generated by*" the "software component" (Resp. Br. at 7–8)—when the claims require "*associated with*"—shows how far from the claim language their proposal strays.

Defendant's second argument, that "service usage activity necessarily 'requires usage of a wireless network connection," is followed by citations to the specification discussing wireless network usage activities. Resp. Br. at 9–10. But those citations cannot rewrite the plain meaning of "service usage activity" into something which "necessarily requires usage of a wireless connection." They simply show that the invention can be used in wireless networking—not that the term "service usage activity" is narrowed through disclaimer. This is why the claims further recite that the "service usage activity" comprise "one or more prospective or successful communications over a wireless network." As a matter of claim construction, Defendants need to justify their demand for adding "*requires usage*" to the term "service usage activity." They have not.

Finally, in characterizing Headwater's arguments as an "expansion" of claim scope (Resp. Br. at 10), Defendants miss the point. Headwater is saying that the *plain meaning* of "service usage activity," even in the context of the specification, does not "require[] usage of a wireless network connection." This is clear from the specification. *E.g.*,'541 patent at 107:2-5, 107:13-18. The parties agree that claim 1 requires the "service usage activity" comprise communications over a wireless network, a "wireless network," and a "wireless end-user device." None of those words change the plain meaning of "service usage activity" or are "clear disclaimer." Resp. Br. at 10.

C.   "background activity" ('541 patent, claim 1 and dependents)

Defendants and their expert don't dispute that (1) "background activity" is a known term in computer software and networking, and (2) the '541 patent uses "background activity" in the ordinary sense. *See* Op. Br. at 12–13 (citing Turnbull Decl. at 89:24–91:1). And in their IPR on the '541 patent, Defendants affirmatively represented to the PTO that "determining whether an activity is a background activity was *well known*." *Id.* at 14 (citing '541 IPR Pet. at 12–13). These admissions end the inquiry—the term is not indefinite.

Defendants' entire argument rests on characterizing isolated examples from the specification. This fails for a simple reason. None of the specification's exemplary descriptions purport to redefine "background activity" contrary to the term's plan meaning, as Dr. Turnbull admitted. *See* Turnbull Dep. at 46:16–20 (no opinions on lexicography or disclaimer).

First, Defendants point to one sentence in the specification that says: "For example, when the user is not directing interacting with *or benefiting from* this type of application, the application can be running in the background." Resp. Br. at 11 (emphasis by Defendants). But three underlined words in one sentence doesn't remotely support Defendants' argument. The patentee wasn't seeking to define "background activity"—it was giving an example of user interaction when applications can be running in the background. As to "background activity," the '541 patent gives extensive explanations and examples, consistent with the plain meaning. Op. Br. at 13; '541 patent at 14:47–15:4 (further noting that "Various other examples [of background activities that consume significant network resources] will now be apparent to one ordinary skill in the art.") Defendants are also wrong that "benefiting from" (which is not even a claim term) is ambiguous. This Court already held that similar claim language in a related patent is definite. Op. Br. at 27.

Second, Defendants argue that the specification gives different possibilities of how traffic can be categorized as "background" / "foreground" and that the categorization "depends on the

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particular device implementation including user or service-provider settings." Resp. Br. at 12. But even if true, that doesn't support indefiniteness. Defendants are saying that depending on the system, more information or context may be needed. But a POSITA would have that information and be able to categorize a "background activity" with reasonable certainty. This doesn't suggest that the term itself is ambiguous or subjective. Indeed, Defendants acknowledged that where a prior art reference "provides sufficient context," it would have no problem determining whether an activity is a "background activity." Resp. Br. at 11. Thus, the term is not indefinite.

D.   "device service state" ('042 patent, claim 1 and dependents)

Defendants do not dispute that "device service state" has a plain and ordinary meaning. They instead contend that the passage at '042 patent, at 18:6-11, is a lexicographical definition, despite its use of the phrase "*for example*" and "*sometimes*" in the passage. Resp. Br. at 19-21. They argue that the specification "describes one specific type of reported information and provides *the* definition for this specific type of reported information as the device service state." *Id.* But simply because the specification discusses one "type of reported information" as "sometimes" a "device service state" in embodiments does not mean it is lexicographically defining "device service state" as that term is used in the claims. In *Kyocera*, the specification of the patent provided only one spatial position for the claimed "piston" within the assembly that could have been the "driven position" of that piston. This made it appropriate to find lexicography with the specification's identification of the bottom-most travel position of the piston as the "driven position."

In contrast, the language from 18:6-11 of the '042 patent is not equivalent to the single spatial position of a physical piston in a mechanical assembly observed in *Kyocera*. It is materially different and more complex: information which is (1) received from a device and *also* (2) received or derived outside the device, and which (3) "is required to adequately define the actions needed from the service controller to maintain proper DAS system operation." '042 patent at 18:6-11.

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Defendants, incredibly, contend that nothing in this language is "unclear or imprecise"—overlooking how its construction forces the jury to ask more questions: what does it mean to "***adequately define***" actions needed from "***the service controller***"? What is "***proper*** DAS system operation" and a "DAS system"? What is "***the service controller***," which has no antecedent basis in and does not appear at all in the claims? What does it mean if, as Defendants propose, the claim requires "information about information"? Defendants not only fail to answer these questions, they also fail to explain how a jury could be reasonably expected to do so.

Indeed, Defendants never explain why their proposal fails to "exactly track" what it contends is a lexicographical "definition," but do offer to "agree to the precise words of the definition provided in the specification" to cure that failure. Resp. Br. at 22. Rather than acknowledging their proposed construction results in confusing claim scope and redundancy, Defendants suggest the Court can "clarify" the construction by materially rewriting claim 1 to read: "the report comprising ~~information about~~ a device service state." Resp. Br. at 23. A supposed "lexicographical definition" which requires ***rewriting*** the claims for "clarity" cannot be lexicographical.

E.   "service policy setting" ('042 patent, claim 1 and dependents)

Headwater's proposed construction simply clarifies that the "service" in this claim term is a network data service. This is a simple clarification that would be helpful to the jury and is fully consistent with the intrinsic record. Notably, Defendants do not dispute that "service" here refers to a network data service, and Defendants do not argue that Headwater's construction is incorrect or inconsistent with any intrinsic evidence. Resp. Br. at 23-27.

Defendants' proposal, in contrast, seeks to add unclear limitations that are not required by the specification. For example, Defendants' proposal seeks to limit the claimed service policy setting to a rule that "***can be*** implemented on the device," but it is unclear how, if at all, Defendants intend to limit the claim with this permissive language. Defendants' Responsive Brief does not

explain but instead veers toward an enablement-type discussion in arguing that "one of ordinary skill would easily understand how the rule could be implemented on the device." Resp. Br. at 27. Nothing about this establishes that Defendants' proposed construction should be adopted. Nor do Defendants identify claim language indicating where the claimed service policy setting must be implemented—and if there were such language, then there would seem to be no reason to add it through a construction of this claim term. Notably, as with Defendants' other attempts to limit the claims to exemplary embodiments, the portion of the specification Defendants rely upon for their "can be implemented" language expressly applies to "some embodiments." *See* Resp. Br. at 25; '042 patent at 8:26-30. As another example of Defendants' lack of clarity, Headwater pointed out in its earlier briefing that it is unclear what Defendants believe "governing" means and why it would be necessary or helpful to add such language here, given that claim 1 already specifies that the service policy setting is "configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network." '042 patent at cl. 1.

Defendants' reliance upon extrinsic evidence is also misplaced, as none of the identified sources includes the bulk of Defendants' proposed construction and instead just include individual words like "rule," which hardly proves that Defendants' construction is correct.

F.   "protected partition" ('042 patent, claim 1 and dependents)

Defendants' proposed construction is unprincipled and would not be helpful to the jury in any event. Defendants argue that "protected partition" is a "technical term" that a jury would not understand, while asserting that the phrase "secure device assisted service execution environment" would be clear to a lay jury. Resp. Br. at 29-30. This is not a credible argument, and Defendants again have no lexicography or disclaimer to support their proposal.

Confusingly, Defendants also assert that claim 1 already "makes clear that the protected partition is a secure execution environment." Resp. Br. at 28. But if that were the case, then there

would be no reason to add Defendants' "secure … execution environment" language into a construction. Defendants also confusingly declare that the specification's use of "protected device assisted services (DAS) execution partition" and "protected DAS partition" necessarily means those phrases are interchangeable with the term "protected partition"— even though the claim term "protected partition" does not include the "DAS" qualifier. *Id.* at 27-28.

And while Defendants point to various phrases from the specification that include language from their construction (e.g., "execution environment," "device assisted services"), none of them are limiting, much less lexicography. All excerpts identified by Defendants only describe exemplary embodiments—in fact, nearly every cited sentence explicitly says it describes "some embodiments." *E.g.*, Resp. Br. at 28-29; '042 patent at 5:37-49, 5:58-62, 6:54-56, 7:25-27, 8:60-64, 10:55-60, 12:24-26, 13:2-11, 15:4-13, 13:2-11, 15:4-13. Defendants' arguments make clear they are simply trying to limit the scope of this term to exemplary embodiments, which is improper. *JVW Enters., Inc. v. Interact Accessories*, 424 F.3d 1324, 1335 (Fed. Cir. 2005). Defendants also miss Headwater's point that, where the applicant intended to limit the claims with "device assisted service" language, it did so explicitly. *E.g.*, '042 patent at cl. 14. Headwater's point was not that this means such language "cannot" be included within the scope of "protected partition."

G.   "differential traffic control policy" ('613 patent, claim 1 and dependents)

Defendants do not dispute that there is no lexicography or disclaimer to support their construction. Resp. Br. at 13-15. Nor do Defendants explain why they mischaracterize Headwater's position as supposedly agreeing with Defendants (*id.* at 13), when that is clearly not so (as, among other things, this being a disputed construction plainly shows). Defendants also fail to justify the negative limitation they apparently now seek to add through this construction. Despite claim 1 being a "comprising" claim, Defendants seek to limit its scope to a differential traffic control policy that can <u>only</u> impact network activity. For example, Defendants argue that the accused Doze

Mode functionality suspends background activity that includes network activities and "non-network-based activities," and that this means Doze Mode cannot fall within the scope of claim 1. Resp. Br. at 13. Besides showing their position is transparently litigation driven, Defendants' argument for this negative limitation is completely unfounded and not based on intrinsic evidence. If a policy controls traffic and also does something else, that does not mean the policy no longer controls traffic—Defendants offer no legal basis for the negative limitation they suggest.

Defendants point to disparate phrases in the specification, but none provides—much less requires—the construction they propose. In at least some instances, this picking and choosing misleadingly suggests that such disparate phrases come from the same sentence or paragraph of the specification. For example, Defendants state that "[t]he '613 Patent explains that, because 'some applications and/or OS functions have limited capabilities to defer certain traffic types based on fixed settings in the application,' a solution is 'differentially controlling these types of network service usage activities in various ways depending on the type of service activity requesting network access.'" Resp. Br. at 14 (citing '613 patent at 11:49-57). But the excerpt providing the supposed "solution" comes from '613 patent at 8:51-56, which Defendants do not cite. Defendants also ignore that their excerpts frequently follow immediately after language making clear that the disclosure is non-limiting (e.g., "[i]n some embodiments"). And it is unclear how much of what Defendants argue about the specification even relates to the construction of the term "differential traffic control policy," which is the claim language Defendants chose for construction.

H.   "classify whether a particular application . . . is interacting with the user in the device user interface foreground" ('613 patent, claim 1 and dependents)

Defendants' response is limited to two arguments. It first asserts in one sentence that POSITA would be unable to ascertain the scope of "foreground" / "background" and refers to the '541 patent. Resp. Br. at 16. This is entirely insufficient and undeveloped. It cannot show that claim 1 of the '613 patent is indefinite by clear and convincing evidence.

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Defendants' primary argument on claim differentiation is implausible and rests on unsupported inferences. As an initial matter, Defendants don't contend that the language of claim 1 is itself indefinite. Rather, it argues that the language of claim 6 and the doctrine of claim differentiation somehow render claim 1 indefinite. This fails. Claims 1 and 6 recite, in relevant part:

- <u>Claim 1</u>: "processors configured to . . . classify whether a particular application . . . is interacting with the user in the device user interface foreground"

- <u>Claim 6:</u> "wherein the [] processors are configured to classify that the particular application is interacting with the user in the device user interface foreground when the user of the device is directly interacting with that application or perceiving any benefit from that application"

Claim 1 describes a yes/no classification by the processor (whether the application is interacting with the user in the device user foreground). Claim 6 describes configuring the processor to classify "yes" when the user is directly interacting with or perceiving any benefit from the application. Thus, claim 6 describes an additional configuration of the processor. It doesn't purport to define claim 1's language of "interacting with the user." Claims 1 and 6 have different limitations, and Defendants fail to show that claim differentiation applies to claim 1's language.

But even as to claim differentiation, no plausible "presumption" would render claim 1 indefinite. Even assuming "interacting with the user" (in claim 1) includes both when the user is "directly interacting with" or "perceiving any benefit from" the application (in claim 6), there is nothing confusing about this language. The plain meaning of "interacting with" is broader than "directly interacting with." And it is possible for a user to interact with an application without "perceiving any benefit from" the application. For example, the user could indirectly interact with an application and the application could perform imperceptible processes. This Court already found that the language of claim 6 is not indefinite, and Defendants do not argue that the language of claim 1 is itself indefinite. Thus, there is no basis under the facts or law to transform two definite terms into an indefinite one based on alleged claim differentiation.

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Respectfully submitted,

/s/ Marc Fenster

Marc Fenster (CA Bar
CA State Bar No. 181067
mfenster@raklaw.com
Reza Mirzaie
CA State Bar No. 246953
rmirzaie@raklaw.com
Brian Ledahl
CA State Bar No. 186579
bledahl@raklaw.com
Ben Wang
CA State Bar No. 228712
bwang@raklaw.com
Dale Chang
CA State Bar No. 248657
dchang@raklaw.com
Paul Kroeger
CA State Bar No. 229074
pkroeger@raklaw.com
Neil A. Rubin
CA State Bar No. 250761
nrubin@raklaw.com
Kristopher Davis
CA State Bar No. 329627
kdavis@raklaw.com
James S. Tsuei
CA State Bar No. 285530
jtsuei@raklaw.com
Philip Wang
CA State Bar No. 262239
pwang@raklaw.com
Amy Hayden
CA State Bar No. 287026
ahayden@raklaw.com
Jason M. Wietholter
CA State Bar No. 337139
jwietholter@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Blvd. 12th Fl.
Los Angeles, CA 90025
Telephone: 310-826-7474

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Andrea L. Fair
MILLER FAIR HENRY PLLC
1507 Bill Owens Parkway
Longview, Texas 75604
Telephone: 903-757-6400
andrea@millerfairhenry.com

Attorneys for Plaintiff
Headwater Research LLC

<u>CERTIFICATE OF SERVICE</u>

I hereby certify that counsel of record who to have consented to electronic service are being

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/s/ Marc Fenster
Marc Fenster